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Educational Policies Committee Program Proposal, College of Agriculture and Applied Sciences, May 20, 2011

Utah State University

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May 11, 2011

MEMORANDUM

TO: State Board of Regents

FROM: William A. Sederburg

SUBJECT: Utah State University, Weber State University, Southern Utah University, Snow College, Dixie State College, USU-College of Eastern Utah, and Salt Lake Community College request approval to offer an Associate of Applied Science Degree in General Technology.

Issue

Officials at Utah State University, Weber State University, Southern Utah University, Snow College, Dixie State College, USU-College of Eastern Utah, and Salt Lake Community College request approval to offer an Associate of Applied Science Degree in General Technology, effective Fall Semester 2011. The Regents' Program Review Committee approved the proposed degree on April 13, 2011 and recommended it be moved to the full board for approval.

Background

Regents Policy R473 "Standards for Granting Academic Credit for CTE Course Work Completed in Non-Credit Instructional Formats" was approved on February 4, 2011. As a result, selected Utah System of Higher Education (USHE) institutions are requesting approval to offer an Associate of Applied Science Degree in General Technology. This degree will allow students at the Utah College of Applied Technology (UCAT), who complete selected 900-hour Certificate Programs, to articulate with the AAS in General Technology Degree at USHE institutions.

The Associate of Applied Science (AAS) Degree in General Technology has been designed to provide an option for students who have completed a certificate of technical specialty, equivalent to 30 semester credit hours, either in a credit-bearing or a non-credit bearing format, to further their education by completing an Associate of Applied Science Degree at selected Utah System of Higher Education (USHE) institutions where UCAT program articulation agreements have been implemented.

Degree Structure: The proposed AAS Degree in General Technology consists of a general education component, a technical specialty, and choice of emphasis such as business or technology. Following the approved structure for the degree, the course requirements in each category will vary at each USHE institution offering the degree. (See Appendix for detailed curriculum from selected USHE institutions.)

Policy Issues

Responsibility for design, approval, and implementation of the curriculum is vested in USHE institutions. Each institution has clearly established channels for approval of courses and programs. These curriculum processes are designed to adhere to high standards of teaching and learning. At each of the institutions requesting the approval of this degree, those standards and procedures are being followed. To date, each of the institutions has approved the overall structure of the degree. In addition to the approval of the structure of the degree, Utah State University, Southern Utah University, Snow College, Dixie State College, and USU-College of Eastern Utah have approved specific course requirements. Those course requirements are included in the Appendix. Weber State University and Salt Lake Community College are finalizing their specific course lists. These institutions will submit those lists to the Office of the Commissioner as soon as the curriculum approval process has been completed at those campuses. The individual course lists will then be reviewed by the Office of the Commissioner for consistency with the approved degree structure. Once the individual institutional programs have been approved, each institution will work with appropriate UCAT institutions to develop articulation agreements with selected programs where such agreements make sense.

Utah Valley University has an approved AAS degree in Technology and will use that approved degree to articulate with certificate programs coming from UCAT campuses. Specific course lists from UVU are also included in the Appendix.

Commissioner's Recommendation

The Commissioner recommends the Regents approve the Request to offer the Associate of Applied Science Degree in General Technology, effective Fall Semester, 2011.

William A. Sederburg, Commissioner

WAS/GSW
Attachment

SECTION I: The Request

Utah State University, Weber State University, Southern Utah University, Snow College, Dixie State College, USU-College of Eastern Utah, Utah Valley State University, and Salt Lake Community College request approval to offer an Associate of Applied Science Degree in General Technology effective Fall Semester, 2011.

SECTION II: Program Description

The Associate of Applied Science (AAS) Degree in General Technology has been designed to provide an option for students who have completed a certificate of technical specialty, equivalent to 30 semester credit hours either in a credit-bearing or a non-credit bearing format, to further their education by completing an Associate of Applied Science Degree at selected Utah System of Higher Education (USHE) institutions. Regents Policy R473 (Standards for Granting Academic Credit for CTE Course Work Completed in Non-Credit Instructional Formats) provides a process for students completing technical training in a nontraditional format to use that training in satisfying a portion of the requirements for an AAS Degree. The proposed AAS Degree in General Technology consists of a general education component, a technical specialty, and choice of an emphasis in business or technology. Following the approved structure for the degree, the course requirements in each category will vary at each USHE institution offering the degree. (See Appendix A for detailed curriculum at each institution.)

Purpose of Degree

The propose of this proposed degree is to further the educational pathway choice for students who have completed a certificate in a technical area and now wish to build on that foundation. The demand for skilled workers has remained strong through the recent recession. This demand for technical skills is being driven by both growth in many technical sectors, and by an aging workforce in these technical occupations.

The expected outcomes of the proposed degree are that students will have obtained a specific technical skill in demand by business and industry, and then additional general education, technology or business skills that business and industry are indicating are lacking in many technical graduates.

Institutional Readiness

The proposed AAS in General Technology will be administered by the appropriate Career and Technical Education instructional department on the USHE campus. Each of the institutions proposing this degree has a component of their mission that they provide training for the workforce. Each of the institutions has the necessary infrastructure to support and implement the degree through their existing Career and Technical Education offering.

Faculty

Each USHE institution has faculty in place to support and oversee this proposed degree. If the technical specialty is provided by a third party, each institution will execute a written articulation agreement with the third party. The written credit articulation agreement will specify the terms and conditions for articulating the instructional competencies in the technical specialty to ensure that the competencies are congruent with standards and competencies required by the USHE institution. The appropriate faculty will be involved in assessing the competencies and appropriately the articulating the credit. No new faculty will be required by the USHE institutions to implement this degree, for the institutional component or for the credit articulation for work completed by the student by the third party.

Staff
No new staff positions will be needed for implementation of the proposed degree on any campus.

Library and Information Resources
Since the courses required for this proposed degree are already in existence, library and information resources at the institutions are adequate to support the addition of this degree option.

Admission Requirements and Conditions for Posting Credit
Students admitted to the proposed program will follow the regular admission process for the USHE institution offering the degree. When the technical specialty is completed at a third party institution, the following process will be followed as specified in Regents Policy R473. Upon fulfillment of the institutional requirements for the AAS in General Technology, the student will be able to use the yearlong technical certificate to satisfy the existing technical specialty required in the A.A.S. degree if a credit articulation agreement acknowledging the yearlong technical certificate is in place. Credit for work completed at a third party will be posted at the USHE institution following completion of the USHE institution's program requirements. The credit posted on the transcript will not count in the calculation of the student's grade point average. Upon successful completion of all program requirements, the student will be awarded the Associate of Applied Science Degree.

Student Advisement

Each USHE institution offering the proposed degree will provide advising for the students accepted into this degree program. No additional advising staff will be necessary.

Justification for Number of Credits
The proposed degree is an AAS degree requiring 63 to 69 credits, which is within the 63 - 69 credit range of the Board of Regents' policy.

External Review and Accreditation
Each USHE institution offering Career and Technical Education instructional programs maintains program advisory committees (PAC) that give direction to the technical programs. The individual advisory committees will continue to validate curriculum used in the technical specialties, including the technical specialty credit awarded in this program.

Projected Enrollment
There are a large number of technical certificates awarded by the USHE institutions and the Utah College of Applied Technology (UCAT), however, the number of students desiring to pursue the degree is unknown. There is indication that the demand will be sufficient to justify offering the proposed degree.

SECTION III: Need

Program Need
House Bill 15, Career and Technical Education Amendments, directs the Board of Regents to support articulation agreements between the Utah College of Applied Technology and other institutions of higher education. Each of the USHE institutions have existing policies governing the transfer and granting of credit for course work obtained from an outside educational provider. Accreditation standards also dictate a process for an institution to follow in awarding credit for work completed by third parties. In an effort to comply with House Bill 15, the Utah State Board of Regents has passed a policy giving guidelines and

direction for "Standards for Granting Academic Credit for CTE Course Work Completed in Non-Credit Instructional Formats". This policy specifically provides for articulation between a 900-membership-hour program to fulfill the requirement for a block of technical specialty work in an AAS Degree in General Technology. This proposed degree will provide this opportunity.

Labor Market Demand

A recent report coauthored by Deloitte, Oracle, and the Manufacturing Institute reinforces the fact that the United States is experiencing an unemployment rate around 9 percent, but facing a skilled worker shortage. High-tech U.S. companies are suffering from a shortage of qualified skilled technical workers, and baby-boomers have delayed their retirement because of the current financial crisis. As the economy improves, large numbers of what Peter Drucker termed "knowledge technologists" will leave the workforce. For instance, forty percent of Boeing workers will be eligible for retirement within five years. Thirty-two percent of U.S. manufacturers report a skill shortage in the midst of this great recession. According to Edward Gordon, "Winning the Global Talent Showdown", America's businesses have chronically underinvested in training their own workers, or helping support higher quality science/math education programs in their communities to better prepare youth for careers in a high-tech world economy.

The proposed AAS Degree in General Technology will help address the shortage of skilled workers who have additional education to will give them an advantage in competing in today's global workforce.

Student Demand

There is no way to determine the exact student demand for this program. The Utah College of Applied Technology offers more than 40 certificates that give students a technical specialty. All indications are that the student demand for this program will be strong.

Similar Programs

At the present time, Utah Valley University has an AAS Degree in Technology which is similar to the proposed program. No other USHE institutions have an AAS Degree that is structured in the way that the proposed degree in general technology is structured.

Collaboration with and Impact on Other USHE Institutions

All institutions within the USHE System have been involved in the discussions of Regents' Policy R473 and the potential creation of the AAS Degree in General Technology.

Benefits

Implementing the proposed AAS Degree in General Technology will give students a pathway leading to an AAS degree that is designed to combine specific technical skill with a foundation of general education and business or technology-related work skills.

Consistency with Institutional Mission

Each of the USHE institutions proposing to offer the proposed degree has a component of their mission statement focused on preparing students to enter the workforce. The AAS Degree in General Technology is consistent with the direction of the USHE system and member institutions.

SECTION IV: Program Assessment

Program Assessment and Standards of Performance

The primary goal of this proposed program is to provide a pathway for individuals who have completed a technical specialty an opportunity to complete additional college work leading to an Associate of Applied Science Degree. At the completion of the AAS degree students will have the opportunity to find employment in their technical specialty. Each of the institutions offering the degree will track student's progress and provide timely information to the students on their progress. The specific objectives for each degree will be measured at the individual institution.

SECTION V: Finance

Budget and Funding Sources

The proposed program will be funded through existing institutional resources. No new courses, faculty, or resources will be required to implement the proposed program.

Impact on Existing Budgets

The impact on existing budgets should be minimal.

A.A.S. in General Technology

Utah State University and USU-CEU

Course #		Course	Opt. Credits	Req. Credits
General Education Requirement				
ENGL	1010	Introduction to Writing		3
ECON	1500	Introduction to Economic Institutions		3
Complete one of the following (Either QL or MA)				
MATH	1020	Trade Mathematics	3	
MATH	1030	Quantitative Reasoning	3	
MATH	1050	College Algebra	4	
STAT	1040	Introduction to Statistics	3	
		Any Approved Physical Science		3
		Any Approved Humanities		3
			Total	**15/16**
Technical Speciality				
Technical Speciality and Institution				
			Total	**30**

Choice of Emphasis	Emphasis Total	Degree Total
Emphasis in General Business	15	60/61
Emphasis in Technology Systems	21	66/67
Emphasis in Allied Health Systems	16	61/62
Emphasis in Design and Creative Arts	21	66/67

General Business Emphasis

Choose one of the following		3
MGT 1350	Introduction to Business	
BUSN 1310	Introduction to Business Management	
Choose one of the following		3
OSS 1550	Business Correspondence	
BUSN 2200	Business Communication	
Choose one of the following		3
ACCT/ACTG 2010	Financial Accounting Principles	
BCIS 2010	Business Computer Apps	
BUS 3100	Survey of Managing Information Systems	
Choose one of the following		3
MIS 2100	Principles of Managing Information Systems	
BUSN 2930	Organizational Behavior	
Choose one of the following		3
MIS 2200	Business Communication	
BUSN 2320	Small Business Management	
	TOTAL	**15**
	DEGREE TOTAL	**60/61**

Technology System Emphasis

ETE 1000	Orientation to Engineering Technology	1
ENGN 1000	Introduction to Engineering	2
ETE 1040	Construction and Estimating	3
ETE 2020	Computer-Integrated Manufacturing	3
Choose one of the following		3
OSS 1550	Business Correspondence	
BUSN 2200	Business Communication	
Choose one of the following		3
ETE 1200	Computer Aided Drafting and Design	
EDDT 1040	CAD Level I	
Choose one of the following		3
ETE 1010	Engineering Communications	
EDDT 1070	CAD Level II	
Choose one of the following		3
ETE 1030	Material Processing	
ENGN 2240	Surveying	
Choose one of the following		3
ETE 2270	Computer Engineering Drafting	
EDDT 1500	Introduction to Geographic Information Systems	
	TOTAL	**21**
	DEGREE TOTAL	**66/67**

Utah State University and USU-CEU (Continued)

Allied Health Systems Emphasis			**Design and Creative Arts Emphasis**		
HEP 2500	Health and Wellness	2	*Choose one of the following*		3
HEP 200	First Aid and Emergency Care	2	ID 1740	Computer Applications in Design	
NFS 1020	Science and Application of Human	3	EDDT 1010	Tech Drafting	
HEP 3000	Drugs and Human Behaviour	3			
HEP 3600	Community Health	3	*Choose one of the following*		3
			ID 1750	Design in Everyday Living	
Choose one of the following		3	EDDT 1040	CAD Level I	
FCHD 1500	Human Development Across Lifespan				
FAML 2610	Child Guidance		*Choose one of the following*		3
			ID 1790	Interior Design Theory	
Choose one of the following		3	EDDT 1070	CAD Level II	
OSS 1550	Business Correspondence				
BUSN 2200	Business Communication		*Choose one of the following*		3
			ART 1010	Exploring Art	
			ART 2400	Computers and Art	
			ART 1600	Foundations of Computer Graphics	
			Choose one of the following		3
			LAEP 1350	Theory of Design	
			EDDT 1100	Res. Architectural Drafting	
			Choose one of the following		3
			OSS 2400	Web Design Applications	
			BCIS 1300	Introduction to Web Page Design	
			Choose one of the following		3
			BUSN 2320	Small Business Management - ATE	
			BUSN 2390	Organizational Behavior	
	TOTAL	**16**		**TOTAL**	**21**
	DEGREE TOTAL	**61/62**		**DEGREE TOTAL**	**66/67**

A.A.S. in General Technology
Southern Utah University

Course #		Course	Opt. Credits	Req. Credits
General Education Requirement (Construction Technology)				
ENGL	1010	Introduction to Writing		3
MATH	1050	College Algebra (or any other MATH class requiring college algebra as a pre-requisite)		4
ECON	2010	Miroeconomics		3
		Any Approved Physical Science		3
		Any Approved Humanities		3
			Total	**16**
Technical Speciality				
Technical Speciality and Institution				
			Total	**30**
Construction Technology Emphasis				
ENGR	2240	Suveying with GPS (Fall)		2
ENGR	2245	Surveying with GPS Lab (Fall)		1
CM	3270	Building Codes (Fall)		3
CM	3240	Estimating and Bidding (Spring)		2
CM	3880	Scheduling and Cost Control (Spring)		3
MGMT	3180	Management and Organizations (Fall/Spring)		2
MGMT	3210	Entrepreneurship (Fall)		3
MGMT	3240	Human Resource Management (Fall/Spring)		3
			Total	**19**
			DEGREE TOTAL	**65**
General Education Requirement (Business)				
ENGL	1010	Introduction to Writing		3
Complete one of the following				
Math: Choose one of the following				4
MATH	1040	Introduction to Statistics	4	
MATH	1050	College Algebra	4	
Social Science: Choose one of the following				3
PSY	1010	General Psychology	3	
SOC	1010	Introduction to Sociology	3	
		Any Approved Physical Science		3
		Any Approved Humanities		3
			Total	**16**
Technical Speciality				
Technical Speciality and Institution				
			Total	**30**
Business Emphasis				
ECON	2010	Microeconomics		3
ECON	2020	Macroeconomics		3
CSIS	2010	Computer Applications		3
ACCT	2010	Accounting Principles		3
ACCT	2020	Managerial Accounting		3
MGMT	3210	Entrepreneurship		3
Choose one of the following				3
MGMT	3180	Management and Organizations	3	
MKTG	3010	Marketing Principles	3	
			Total	**21**
			DEGREE TOTAL	**67**

A.A.S. in General Technology
Snow College

Course #		Course	Opt. Credits	Req. Credits
General Education Requirement				
ENGL	1010	Introduction to Writing		3
Complete one of the following				4
MATH	1050	College Algebra/Pre-Calculus	4	
MATH	1100	Applied Calculus	4	
MATH	2040	Applied Statistics	4	
Complete one of the following				3
BMGT	1170	Human Relations	3	
HFST	2400	Family Relations	3	
			Total	**10**
Technical Speciality				
Technical Speciality courses must be approved by the corresponding Snow College department and meet the specific objective of the student.				
			Total	**30**

Choice of Emphasis	**Emphasis Total**	**Degree Total**
Emphasis in Business	**28**	**68**
Emphasis in Technology	**28**	**68**

Business Emphasis			**Technology Emphasis**		
BMGT 1010	Introduction to Business	3	CIS 1080	Introduction to Information Technology	3
BMGT 1060	Business Management Accounting	3	CIS 1050	Logical Analysis and Programming	3
BMGT 1210	Personal Finance	3	CIS 1140	Networking Technologies	3
BMGT 2050	Business Law	3	CIS 1121	PC Hardware	3
BMGT 2650	Principles of Management	3	CIS 122	PC Operating Systems	3
BT 1010	Introduction to Computers and Business	3	CIS 1501	Visual Basic Programming	3
BT 1700 / BMGT 1500	Professional Business Leadership	1	BT 1100	Digital Medial Tools	4
BT 2200	Business Communication	3	BT 1801	Web Page Design	3
BT 2450	Presentations for Business	3			
			Choose one of the following		3
Choose one of the following		3	CIS 1811	Web Site Development	
BT 2010	Business Computer Proficiency		BT 2120	Web Development Essentials	
BT 2400	Spreadsheets for Business				
	TOTAL	28		TOTAL	28
	DEGREE TOTAL	68		DEGREE TOTAL	68

A.A.S. in General Technology

Dixie State College

Course #		Course	Opt. Credits	Req. Credits
General Education Requirement				
ENGL	1010	Introduction to Writing		3
LIB	1010	Information Literacy		1
BUS	1370	Human Relations		3
BUS	1060	Pre-Employment Seminar		1
CIS	1200	Computer Literacy		3
Complete one of the following				
MATH	1030	Quantitative Reasoning	3	
MATH	1040	Introduction to Statistics	3	
MATH	1050	College Algrebra/Pre-Calculus	4	
MATH	1080	Math of Technology	3	
STAT	2040	Business Statistics	4	
			Total	**14/15**
Technical Speciality				
Technical Specialty hours or credits must be through an approved articulation agreement between the third party and DSC with a certificate of completion document from the third party as outlined in Regents Policy R473.				
			Total	**30**
Business Emphasis				
ACCT	1010	Applied Business Accounting		3
Complete c	1435	Financial Recordkeeping: QuickBooks		1
ECON	1010	Economics of Social Issues		3
COMM	2110	Interpersonal Communication		3
FIN	1750	Personal Finance		3
MGMT	2600	Entrepreneurship		3
MKTG	2550	Marketing Essentials		3
			Total	**19**
			DEGREE TOTAL	**63/64**

UVU UTAH VALLEY UNIVERSITY

Applied Associates of Science Degree in TECHNOLOGY 2010-2011 Catalog Year

Discipline Core Requirements

COURSE NUMBER	COURSE TITLE	CR	PREREQUISITES
TECH1000	Experiential Credit Portfolio Development and Assessment - This requirement may be satisfied by R473 Matriculation Agreement. (2)	2	
INFO1100	Exploring the Digital Domain	3	
TECH110R	Technical Experiential Credit - This requirment may be satisfied by R473 Matriculation Agreement. (6)	6	TECH1000
TECH1010	Understanding Technology	3	
TECH2010	Supervision in Technology	3	
Technical Area Credits	With advisor approval, students must select a minimum of 6 credits. See catalog for 2yr AAS programs for course selection -This requirement may be satisfied by R473 Matriculation Agreement. (6)	6	
Total Discipline Core Requirement Credits		**23 credits**	

Elective Requirements

COURSE NUMBER	COURSE TITLE	CR	PREREQUISITES
Students must select a minimum of 24 credits of electives from the following or other Advisor approved course work:			
TECH110R	Technical Experiential Credit	1 to 10	TECH1000
ANTH101G	Social/Cultural Anthropology	3	
BIOL1010	General Biology	3	See Catalog
BIOL1015	General Biology Laboratory	1	
BIOL1070	Heredity	3	
CHEM1010	Introduction to Chemistry	3	
CHEM1110	Elementary Chemistry for Health Sciences	4	MAT1010
CHEM1115	Elementary Chemistry Laboratory	1	CHEM1010 or CHEM1110
CLSS1000	University Student Success	3	
CLSS1200	7 Habits of Highly Effective People	3	
COMM1050	Intro to Speech Communication	3	
COMM1500	Intro to Mass Communication	3	
COMM2010	Mass Communication and Society	3	COMM1500
ENGR1000	Intro to Engineering	3	MAT1000 or MAT1010
ENVT1110	Intro to Environmental Management	3	
ENVT1510	Hazardous Materials Emergency Response	3	
ENVT2600	Skills for Humanitarian Projects	3	
GEO1010	Intro to Geology	3	
GEO1015	Intro to Geology Laboratory	1	
MAT1010	Intermediate Algebra	4	See Catalog
PHSC1000	Survey of Physical Science	3	
PHYS1010	Elementary Physics	3	
PHYS3800	Energy Use on Earth	3	(PHYS 1010 or PHSC 1000 or CHEM 1010 or GEO 1010 or GEO 2040 or METO 1010) and MATH 1050
Additional Technical Area credits as approved by advisor			
Sixteen (16) credits may be satisfied by R473 Matricualtion Agreement.		16	
Foreign Language Credits - Students may select up to 10 credits of a foreign language		up to10	
Total Elective Requirement Credits		**24 Credits**	

General Education

COURSE NUMBER	COURSE TITLE	CR	PREREQUISITES
MGMT2200, or ENGL 1010	Business Communication, or Introduction to Writing	3, or 3	No prerequisites, or See Catalog
EDGT 1600, or MATH 1030 or **MATH 1040** or MATH 1050	Technical Math--Algebra, or Quantitative Reasoning or **Introduction to Statistics (recommended)** or College Algebra	3 to 4	See Catalog for corresponding Math requirement
HLTH1100 or PE-S1097 or Safety or Environment	Personal Health and Wellness or Fitness for Life or	1	
Humanities or Fine Arts	Choose from list on back	3	
Social/Behavioral Science	TECH2000 required	3	
Biology or Physical Science	Choose from list on back	3	
Total General Education Credits		**16 credits**	
Total Credits Required for Applied Associates Degree		**63 credits**	

Graduation Requirements		
1. Complete a minimum of 63 semester credits		
2. Overall grade point average of 2.0 or above.		
3. Residency hours - Minimum of 20 credit hours through course attendance at UVU.		
4. Completion of GE and specified department requirements		
5.This degree MAY apply towards the BS in Technology Management, if the majority of course work is in a related technical area and has been approved		